

# SERVICE MANUAL

Ver.4-2005K

## Revision History

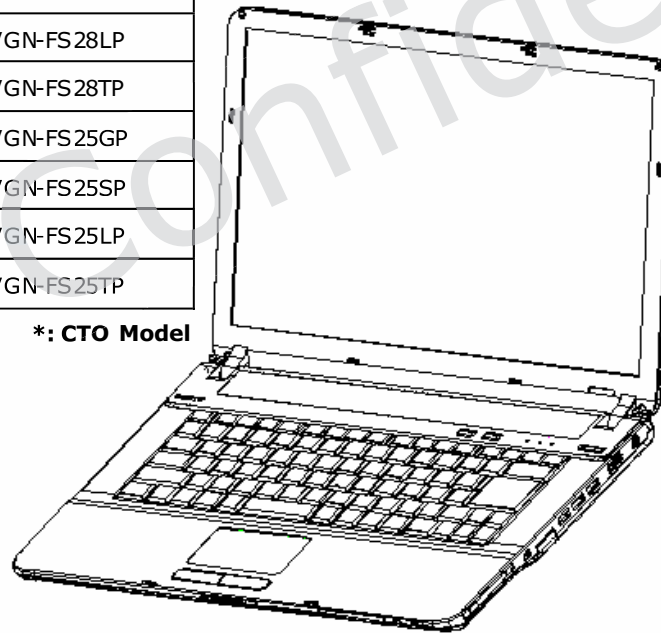
<b>J</b>	VGN-FS71B	<b>AM</b>	VGN-FS655FP	<b>EU</b>	VGN-FS215S
	VGN-FS51B		VGN-FS640FP		VGN-FS285H
	VGN-FS31B		VGN-FS610FP		VGN-FS28C
	VGN-FS21B		VGN-FS620P		VGN-FS25C
	VGN-FS21		VGN-FS620		VGN-FS28GP
	VGN-FS91PS *		VGN-FS630		VGN-FS28SP
	VGN-FS91PSY *		VGN-FS690P *		VGN-FS28LP
	VGN-FS91S *		VGN-FS690B *		VGN-FS28TP
<b>AM</b>	VGN-FS680		VGN-FS690 *	<b>AO</b>	VGN-FS25GP
	VGN-FS660P		VGN-FS690BH *		VGN-FS25SP
	VGN-FS660				VGN-FS25LP
	VGN-FS640				VGN-FS25TP
	VGN-FS675P		VGN-FS295XP		
	VGN-FS635B		VGN-FS215Z		
	VGN-FS625B		VGN-FS215M		
	VGN-FS645P		VGN-FS215B		
	VGN-FS670FG	<b>EU</b>	VGN-FS215E		
	VGN-FS650F		VGN-FS215SR		
	VGN-FS630F		VGN-FS215MR		
	VGN-FS615F		VGN-FS285M		
	VGN-FS640Q		VGN-FS285B		
			VGN-FS285E		

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\*: CTO Model



● Design and specifications are subject to change without notice.

PERSONAL COMPUTER

SONY®

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### **Caution Markings for Lithium/Ion Battery-**

The following or similar texts shall be provided on battery pack of equipment or in both the operating and the service instructions.

CAUTION: Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Discard used batteries according to the Manufacturer's

CAUTION: The battery pack used in this device may present a fire or chemical burn hazard if mistreated. Do not disassemble, heat above 100°C (212°F) or incinerate. Dispose of used battery promptly. Keep Away from children..

CAUTION: Changing the back up battery.

- Overcharging, short circuiting, reverse charging, mutilation or incineration of the cells must be avoided to prevent one or more of the following occurrences; release of toxic materials, release of hydrogen and/or oxygen gas, rise in surface temperature.
- If a cell has leaked or vented, it should be replaced immediately while avoiding to touch it without any protection..

## **Service and Inspection Precautions**

### **\*1. Obey precautionary markings and instructions**

\* Labels and stamps on the cabinet, chassis, and components are as requiring special precautions. Be sure to observe these precautions, as well as all precautions listed in the operating manual and other associated documents..

### **\*2. Use designated parts only**

\* The set's components possess important safety characteristics, such as noncombustibility and the ability to tolerate large voltages.

- Be sure that replacement parts possess the same safety characteristics as the originals. Also remember that the mark, which appears in circuit diagrams and parts lists, denotes components that have particularly important safety functions be extra sure to use only the designated components.

### **\*3. Always follow the original design when mounting parts and routing wires**

\* The original layout includes various safety features, such as inclusion of insulating materials (tubes and tape) and the mounting of parts above the printer board. In addition, internal wiring has been routed and clamped so as to keep it

away from hot or high-voltage parts. When mounting parts or routing wires, therefore, be sure to duplicate the original layout.

### **4. Inspect after completing service**

After servicing, inspect to make sure that all screws, components, and wiring have been returned to their original condition. Also check the area around the repair location to ensure that repair work has caused no damage, and confirm safety.

### **5. When replacing chip components..**

Never reuse components. Also remember that the negative side of tantalum capacitors is easily damaged by heat.,

### **6. When handling flexible print boards..**

- The temperature of the soldering-iron tip should be about 270°C.
- Do not apply the tip more than three times to the same pattern.
- Handle patterns with care; never apply force

Caution: Remember that hard disk drives are easily damaged by vibration. Always handle with care.

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History of the changes is shown as the  
"Revision History" at the end of this data.

# CHAPTER1. SPECIFICATIONS

## 1-1. Specifications

	J					
	VGN-FS71B	VGN-FS51B	VGN-FS31B	VGN-FS21B	VGN-FS21	VGN-FS91P5*/FS91P5V*/FS91S*
CPU	Pentium-M 750(Do1.86)	Pentium-M 740(Do1.73)	Celeron-M 370(Do1.5)	Celeron-M 360J(Do1.4)	Celeron-M 360J(Do1.4)	*1)
Graphic	NV44M	915GM	915GM	915GM	915GM	*2)
LCD	15.4"WXGA (Clear Black)	15.4"WXGA (Clear Black)	15.4"WXGA (Clear Black)	15.4"WXGA (High Brightness)	15.4"WXGA (High Brightness)	15.4"WXGA (Clear Black)
HDD	100GB	100GB	80GB	60GB	60GB	*3)
MEMORY(Slot1)	256MB DDR333	256MB DDR333	256MB DDR333	256MB DDR333	256MB DDR333	*4)
MEMORY(Slot2)	256MB DDR333	256MB DDR333	256MB DDR333	-	-	
QUANTITY[STANDARD/MAX]	512MB/2GB	512MB/2GB	512MB/2GB	256MB/2GB	256MB/2GB	
OPT-DRIVE	Super Multi Drive DL	Super Multi Drive DL	Super Multi Drive DL	Super Multi Drive DL	Super Multi Drive DL	Super Multi Drive DL/Combo /DVD-ROM
AC adaptor	AC19V11	AC19V11	AC19V11	AC19V11	AC19V11	AC19V10
Battery	BP2SA	BP2SA	BP2SA	BP2SA	BP2SA	BP2SA
Wireless LAN	O	O	O	O	O	O/X
Memory Card Adapter	O	O	O	O	O	O
USB FLOPPY DISK DRIVE	X	O	O	X	X	X
OS	XP Home	XP Home	XP Home	XP Home	XP Home	XP Home/XP Pro

\*1)Celeron-M 360J,Celeron-M 370,Pentium-M 740,Pentium-M 770 \*2)NV44M,915GM \*3)100GB,80GB,60GB,40GB \*4)512MB\*2,256MB\*1

\*5)Celeron-M 360,Pentium-M 730,Pentium-M 740,Pentium-M 750,Pentium-M 760,Pentium-M 770 \*6)NV44M,915GM \*7)100GB,80GB,60GB,40GB,30GB

\*8)512MB\*1,512MB\*2,256MB\*1,256MB\*2 \*9)Combo,DVD+/-RW DL,DVD-ROM \*10) 802.11b/g, 802.11a/b/g

	AM																				
	VGN-FS680	VGN-FS660P	VGN-FS660	VGN-FS640	VGN-FS675P	VGN-FS635B	VGN-FS625B	VGN-FS645P	VGN-FS670FG	VGN-FS650F	VGN-FS630F	VGN-FS615F	VGN-FS640Q	VGN-FS655FP	VGN-FS640FP	VGN-FS610FP	VGN-FS620P	VGN-FS620	VGN-FS630	VGN-FS660P*2002*/FS66P*	
CPU	Pentium-M 750(Do1.86)	Pentium-M 740(Do1.73)	Pentium-M 740(Do1.73)	Pentium-M 730(Do1.6)	Pentium-M 750(Do1.86)	Pentium-M 730(Do1.6)	Pentium-M 730(Do1.6)	Pentium-M 730(Do1.6)	Pentium-M 750(Do1.86)	Pentium-M 740(Do1.73)	Celeron-M 360J(Do1.4)	Celeron-M 360J(Do1.4)	Pentium-M 730(Do1.6)	Pentium-M 740(Do1.73)	Pentium-M 730(Do1.6)	Celeron-M 360J(Do1.4)	Pentium-M 730(Do1.6)	Pentium-M 730(Do1.6)	Pentium-M 740(Do1.73)	*5)	
Graphic	NV44M	NV44M	NV44M	915GM	NV44M	915GM	915GM	NV44M	915GM	915GM	915GM	915GM	915GM	915GM	915GM	915GM	915GM	915GM	915GM	*6)	
LCD	15.4"WXGA (Clear Black)	15.4"WXGA (Clear Black)	15.4"WXGA (Clear Black)	15.4"WXGA (High Brightness)	15.4"WXGA (Clear Black)	15.4"WXGA (High Brightness)	15.4"WXGA (High Brightness)	15.4"WXGA (Clear Black)	15.4"WXGA (Clear Black)	15.4"WXGA (High Brightness)	15.4"WXGA (High Brightness)	15.4"WXGA (High Brightness)	15.4"WXGA (High Brightness)	15.4"WXGA (High Brightness)	15.4"WXGA (High Brightness)	15.4"WXGA (High Brightness)	15.4"WXGA (High Brightness)	15.4"WXGA (High Brightness)	15.4"WXGA (High Brightness)	15.4"WXGA (High Brightness)	
HDD	100GB	80GB	80GB	80GB	100GB	60GB	40GB	80GB	80GB	60GB	40GB	40GB	80GB	80GB	60GB	40GB	80GB	80GB	80GB	*7)	
MEMORY(Slot1)	512MB DDR333	512MB DDR333	512MB DDR333	256MB DDR333	512MB DDR333	512MB DDR333	256MB DDR333	256MB DDR333	256MB DDR333	256MB DDR333	256MB DDR333	256MB DDR333	256MB DDR333	512MB DDR333	256MB DDR333	256MB DDR333	256MB DDR333	256MB DDR333	256MB DDR333	*8)	
MEMORY(Slot2)	512MB DDR333	512MB DDR333	512MB DDR333	256MB DDR333	512MB DDR333	-	-	256MB DDR333	256MB DDR333	256MB DDR333	256MB DDR333	256MB DDR333	256MB DDR333	512MB DDR333	256MB DDR333	-	256MB DDR333	256MB DDR333	256MB DDR333		
QUANTITY(STANDARD/MAX)	1GBB/2GB	1MB/2GB	1MB/2GB	512MB/2GB	1MB/2GB	512MB/2GB	256MB/2GB	512MB/2GB	512MB/2GB	512MB/2GB	512MB/2GB	512MB/2GB	512MB/2GB	1MB/2GB	512MB/2GB	256MB/2GB	512MB/2GB	512MB/2GB	512MB/2GB		
OPT-DRIVE	DVD+/-RW DL	DVD+/-RW DL	DVD+/-RW DL	DVD+/-RW DL	DVD+/-RW DL	Combo	Combo	DVD+/-RW DL	DVD+/-RW DL	DVD+/-RW DL	DVD+/-RW DL	Combo	DVD+/-RW DL	DVD+/-RW DL	Combo	Combo	Combo	Combo	Combo	*9)	
AC adaptor	AC19V9	AC19V11	AC19V11	AC19V11	AC19V11	AC19V11	AC19V11	AC19V11	AC19V9	AC19V10	AC19V10	AC19V10	AC19V11	AC19V10	AC19V10	AC19V10	AC19V11	AC19V11	AC19V11	AC19V10 (w/o PR)/AC19V9 (W/ PR)	
Battery	BP2SA	BP2SA	BP2SA	BP2SA	BP2SA	BP2SA	BP2SA	BP2SA	BP2SA	BP2SA	BP2SA	BP2SA	BP2SA	BP2SA	BP2SA	BP2SA	BP2SA	BP2SA	BP2SA		
Wireless LAN	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O		
Memory Card Adapter	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
USB FLOPPY DISK DRIVE	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
OS	XP Home	XP Pro	XP Home	XP Home	XP Pro	XP Pro	XP Pro	XP Pro	XP Home	XP Home	XP Home	XP Home	XP Home	XP Pro	XP Pro	XP Pro	XP Home	XP Home	XP Home	XP Pro/XP Home	

- The model that is accompanied by asterisk(\*) is the CTO model.  
For the equipment configuration, refer to the CTO Information.
- The trademarks or registered trademarks of above ,refer to page2.

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	EU												
	VGN-FS295XP	VGN-FS215Z	VGN-FS215M	VGN-FS295VP	VGN-FS215B	VGN-FS215E	VGN-FS215SR	VGN-FS215MR	VGN-FS285M	VGN-FS285B	VGN-FS285E	VGN-FS215S	VGN-FS285H
CPU	Pentium-M 750(Do1.86)	Pentium-M 740(Do1.73)	Pentium-M 740(Do1.73)	Pentium-M 740(Do1.73)	Pentium-M 740(Do1.73)	Celeron-M 370(Do1.5)	Pentium-M 750(Do1.86)	Pentium-M 740(Do1.73)	Pentium-M 740(Do1.73)	Pentium-M 740(Do1.73)	Celeron-M 370(Do1.5)	Pentium-M 750(Do1.86)	Pentium-M 740(Do1.73)
Graphic	NV44M	NV44M	NV44M	NV44M	915GM	915GM	NV44M	NV44M	NV44M	915GM	915GM	NV44M	NV44M
LCD	15.4"WXGA (High Brightness)	15.4"WXGA (Clear Black)	15.4"WXGA (Clear Black)	15.4"WXGA (High Brightness)	15.4"WXGA (Clear Black)	15.4"WXGA (High Brightness)	15.4"WXGA (Clear Black)	15.4"WXGA (Clear Black)	15.4"WXGA (Clear Black)	15.4"WXGA (High Brightness)	15.4"WXGA (High Brightness)	15.4"WXGA (Clear Black)	15.4"WXGA (Clear Black)
HDD	100GB	100GB	80GB	80GB	60GB	60GB	100GB	80GB	80GB	80GB	80GB	100GB	80GB
MEMORY(Slot1)	512MB DDR333	256MB DDR333	256MB DDR333	512MB DDR333	256MB DDR333	256MB DDR333	256MB DDR333	256MB DDR333	512MB DDR333	256MB DDR333	256MB DDR333	256MB DDR333	256MB DDR333
MEMORY(Slot2)	-	256MB DDR333	256MB DDR333	-	256MB DDR333	256MB DDR333	256MB DDR333	256MB DDR333	512MB DDR333	256MB DDR333	256MB DDR333	256MB DDR333	256MB DDR333
QUANTITY[STANDARD/MAX]	512MB/2GB	512MB/2GB	512MB/2GB	512MB/2GB	512MB/2GB	512MB/2GB	512MB/2GB	512MB/2GB	1GB/2GB	512MB/2GB	512MB/2GB	512MB/2GB	512MB/2GB
OPT-DRIVE	DVD+-RW DL	DVD+-RW DL	DVD+-RW DL	DVD+-RW DL	DVD+-RW DL	DVD+-RW DL	DVD+-RW DL	DVD+-RW DL	DVD+-RW DL	DVD+-RW DL	DVD+-RW DL	DVD+-RW DL	DVD+-RW DL
AC adaptor	AC19V11	AC19V9	AC19V11	AC19V11	AC19V11	AC19V11	AC19V12	AC19V12	AC19V11	AC19V11	AC19V11	AC19V11	AC19V11
Battery	BP2SA	BP2SA	BP2SA	BP2SA	BP2SA	BP2SA	BP2SA	BP2SA	BP2SA	BP2SA	BP2SA	BP2SA	BP2SA
Wireless LAN	O	O	O	O	O	O	O	O	O	O	O	O	O
Memory Card Adapter	X	X	X	X	X	X	X	X	X	X	X	X	X
USB FLOPPY DISK DRIVE	X	X	X	X	X	X	X	X	X	X	X	X	X
OS	XP Pro	XP Home	XP Home	XP Pro	XP Home	XP Home	XP Home	XP Home	XP Home	XP Home	XP Home	XP Home	XP Home

	AO									
	VGN-FS28C	VGN-FS25C	VGN-FS28GP	VGN-FS28SP	VGN-FS28LP	VGN-FS28TP	VGN-FS25GP	VGN-FS25SP	VGN-FS25LP	VGN-FS25TP
CPU	Pentium-M 740(Do1.73)	Celeron-M 360J(Do1.4)	Pentium-M 760(Do2.0)	<-	<-	<-	Pentium-M 740(Do1.73)	<-	<-	<-
Graphic	NV44M	915GM	NV44M	<-	<-	<-	NV44M	<-	<-	<-
LCD	15.4"WXGA (High Brightness)	15.4"WXGA (High Brightness)	15.4"WXGA (Clear Black)	<-	<-	<-	15.4"WXGA (High Brightness)	<-	<-	<-
HDD	40GB	40GB	80GB	<-	<-	<-	60GB	<-	<-	<-
MEMORY(Slot1)	512MB DDR333	256MB DDR333	512MB DDR333	<-	<-	<-	512MB DDR333	<-	<-	<-
MEMORY(Slot2)	-	-	-	<-	<-	<-	-	<-	<-	<-
QUANTITY[STANDARD/MAX]	512MB/2GB	256MB/2GB	512MB/2GB	<-	<-	<-	512MB/2GB	<-	<-	<-
OPT-DRIVE	Combo	Combo	DVD+-RW DL	<-	<-	<-	DVD+-RW DL	<-	<-	<-
AC adaptor	AC19V10	AC19V10	AC19V10	<-	<-	<-	AC19V10	<-	<-	<-
Battery	BP2SA	BP2SA	BP2SA	<-	<-	<-	BP2SA	<-	<-	<-
Wireless LAN	O	O	O	<-	<-	<-	O	<-	<-	<-
Memory Card Adapter	X	X	X	<-	<-	<-	X	<-	<-	<-
USB FLOPPY DISK DRIVE	X	X	X	<-	<-	<-	X	<-	<-	<-
OS	XP Home	XP Home	XP Pro	<-	<-	<-	XP Pro	<-	<-	<-

- The model that is accompanied by asterisk(\*) is the CTO model.  
For the equipment configuration, refer to the CTO Information.
- The trademarks or registered trademarks of above ,refer to page2.

1-2.CTO Information

Model name:VGN-FS91PS  
Model number:PCG-7A1N (w/ W-LAN), PCG-7A2N(w/o W-LAN)  
OS:WinXP Pro

CPU	Pentium-M 770 6-707-261-01 CPU PM 2.13	Pentium-M 740 6-707-258-01 CPU PM 1.73	Pentium-M 730 6-707-268-01 CPU CEL-M 1.5	Celeron-M 360J 6-707-715-01 CPU CEL-M 1.4
HDD	100GB A-1127-961-A ASSY HDD 100GB(TO)	80GB A-1108-905-A ASSY HDD 80GB(TO)	80GB A-1108-908-A ASSY HDD 80GB(TO)	40GB A-1108-910-A ASSY HDD 40GB(HH)
LCD	15.4WSXGA+ClearBlack A-1133-650-A ASSY LCD (HC-SXGA+WLAN)(S)(WHITE)	15.4WXGA/ClearBlack A-1133-651-A ASSY LCD (HC-XGA-WLAN)(S)(WHITE)	15.4WSXGA+ClearBlack A-1127-879-A ASSY LCD (HC-SXGA+WLAN)(S)(GRAY)	15.4WXGA/ClearBlack A-1127-879-A ASSY LCD (HC-WXGA-WLAN)(S)(GRAY)
Graphics	9V44M	915GM		
Memory	256MB*1 6-707-629-01 IC HY564D32020HDL-6-C	256MB*2 6-707-629-01 IC HY564D32020HDL-6-C	512MB*2 6-705-096-01 IC HY564D64020HDL-6-C	
Opt.Drive	Super Multi +1-DL A-1127-946-A ASSY ODD PANA(SM+DL)(W)	Super Multi +1-DL A-1127-947-A ASSY ODD PANA(SM+DL)(B)	Combo A-1127-956-A ASSY ODD QSI(SBW 243)(W)	Combo A-1127-957-A ASSY ODD QSI(SBW 243)(B)
DVD-ROM				DVD-ROM A-1127-958-A ASSY ODD Toshiba(C2732)(W)
DVD-ROM				DVD-ROM A-1127-959-A ASSY ODD Toshiba(C2732)(B)
W-LAN	802.11b(g)(Intel) 1-761-864-01 WIRELESS LAN CARD	None		
Office	2003 Professional	2003 Personal	None	
Other Option	Memory card adapter 1-478-615-11 MEMORY CARD ADAPTER			
CHASSIS COLOR	White	Gray		

Model name:VGN-FS91PSY  
Model number:PCG-7A1N (w/ W-LAN), PCG-7A2N(w/o W-LAN)  
OS:WinXP Pro

CPU	Pentium-M 770 6-707-261-01 CPU PM 2.13	Pentium-M 740 6-707-258-01 CPU PM 1.73	Pentium-M 730 6-707-268-01 CPU CEL-M 1.5	Celeron-M 360J 6-707-715-01 CPU CEL-M 1.4
HDD	100GB A-1127-961-A ASSY HDD 100GB(TO)	80GB A-1108-905-A ASSY HDD 80GB(TO)	80GB A-1108-908-A ASSY HDD 80GB(TO)	40GB A-1108-910-A ASSY HDD 40GB(HH)
LCD	15.4WSXGA+ClearBlack A-1127-878-A ASSY LCD (HC-SXGA+WLAN)(S)(GRAY)	15.4WXGA/ClearBlack A-1127-879-A ASSY LCD (HC-WXGA-WLAN)(S)(GRAY)		
Graphics	915GM			
Memory	256MB*1 6-707-629-01 IC HY564D32020HDL-6-C	256MB*2 6-707-629-01 IC HY564D32020HDL-6-C	512MB*2 6-705-096-01 IC HY564D64020HDL-6-C	
Opt.Drive	Super Multi +1-DL A-1127-947-A ASSY ODD PANA(SM+DL)(B)	Combo A-1127-957-A ASSY ODD QSI(SBW 243)(B)	DVD-ROM A-1127-959-A ASSY ODD Toshiba(C2732)(B)	
W-LAN	802.11b(g)(Intel) 1-761-864-01 WIRELESS LAN CARD	None		
Office	2003 Professional	2003 Personal	None	
Other Option	Memory card adapter 1-478-615-11 MEMORY CARD ADAPTER			
CHASSIS COLOR	Gray			

Model name:VGN-FS91S  
Model number:PCG-7A1N (w/ W-LAN), PCG-7A2N(w/o W-LAN)  
OS:WinXP Home

CPU	Pentium-M 770 6-707-261-01 CPU PM 2.13	Pentium-M 740 6-707-258-01 CPU PM 1.73	Pentium-M 730 6-707-268-01 CPU CEL-M 1.5	Celeron-M 360J 6-707-715-01 CPU CEL-M 1.4
HDD	100GB A-1127-961-A ASSY HDD 100GB(TO)	80GB A-1108-905-A ASSY HDD 80GB(TO)	80GB A-1108-908-A ASSY HDD 80GB(TO)	40GB A-1108-910-A ASSY HDD 40GB(HH)
LCD	15.4WSXGA+ClearBlack A-1133-650-A ASSY LCD (HC-SXGA+WLAN)(S)(WHITE)	15.4WXGA/ClearBlack A-1133-651-A ASSY LCD (HC-XGA-WLAN)(S)(WHITE)	15.4WSXGA+ClearBlack A-1127-879-A ASSY LCD (HC-SXGA+WLAN)(S)(GRAY)	15.4WXGA/ClearBlack A-1127-879-A ASSY LCD (HC-WXGA-WLAN)(S)(GRAY)
Graphics	9V44M	915GM		
Memory	256MB*1 6-707-629-01 IC HY564D32020HDL-6-C	256MB*2 6-707-629-01 IC HY564D32020HDL-6-C	512MB*2 6-705-096-01 IC HY564D64020HDL-6-C	
Opt.Drive	Super Multi +1-DL A-1127-946-A ASSY ODD PANA(SM+DL)(W)	Super Multi +1-DL A-1127-947-A ASSY ODD PANA(SM+DL)(B)	Combo A-1127-956-A ASSY ODD QSI(SBW 243)(W)	Combo A-1127-957-A ASSY ODD QSI(SBW 243)(B)
DVD-ROM				DVD-ROM A-1127-958-A ASSY ODD Toshiba(C2732)(W)
DVD-ROM				DVD-ROM A-1127-959-A ASSY ODD Toshiba(C2732)(B)
W-LAN	802.11b(g)(Intel) 1-761-864-01 WIRELESS LAN CARD	None		
Office	2003 Professional	2003 Personal	None	
Other Option	Memory card adapter 1-478-615-11 MEMORY CARD ADAPTER			
CHASSIS COLOR	White	Gray		

Model name:VGN-FS690P  
Model number:PCG-7A1L(802.11a/b/g),PCG-7A2L(802.11b/g)  
OS:WinXP Pro

CPU	Pentium-M 770 6-707-261-01 CPU PM2.13	Pentium-M 760 6-707-260-01 CPU PM2.0	Pentium-M 750 6-707-259-01 CPU PM 1.86	Pentium-M 740 6-707-258-01 CPU PM 1.73	Pentium-M 730 6-707-252-01 CPU PM 1.6	Celeron-M 360J 6-707-715-01 CPU CEL-M 1.4					
HDD	100GB A-1127-961-A ASSY HDD 100GB(TO)	80GB A-1108-905-A ASSY HDD 80GB(TO)	60GB A-1108-908-A ASSY HDD 60GB(TO)	40GB A-1108-910-A ASSY HDD 40GB(HH)	30GB A-1108-911-A ASSY HDD 30GB(HH)						
LCD	15.4WXGA/High Brightness A-1133-649-A ASSY LCD (BS-WLAN)(Q)(S)(WHITE)										
Graphics	NV44M	P150M									
Memory	256MB*1 6-707-629-01 IC HY864D32020HDL-6-C	256MB*2 6-707-629-01 IC HY864D32020HDL-6-C	512MB*1 6-705-096-01 IC HY864D64020HBDL-6-C	512MB*2 6-705-096-01 IC HY864D64020HBDL-6-C							
Opt.Drive	DVD+RW A-1127-951-A ASSY ODD SONY(DVD+DL)(W)	Combo A-1127-956-A ASSY ODD QS(SBW 243)(W)	DVD-ROM A-1127-958-A ASSY ODD Toshiba(C732)(W)								
W-LAN	802.11b/g(intel) 1-761-884-51 WIRELESS LAN CARD	802.11a/b/g 1-789-095-51 WIRELESS LAN CARD									
CHASSIS COLOR	White										

Model name:VGN-FS690  
Model number:PCG-7A1L(802.11a/b/g),PCG-7A2L(802.11b/g)  
OS:WinXP Home

CPU	Pentium-M 770 6-707-261-01 CPU PM2.13	Pentium-M 760 6-707-260-01 CPU PM2.0	Pentium-M 750 6-707-259-01 CPU PM 1.86	Pentium-M 740 6-707-258-01 CPU PM 1.73	Pentium-M 730 6-707-252-01 CPU PM 1.6	Celeron-M 360J 6-707-715-01 CPU CEL-M 1.4
HDD	100GB A-1127-961-A ASSY HDD 100GB(TO)	80GB A-1108-905-A ASSY HDD 80GB(TO)	60GB A-1108-908-A ASSY HDD 60GB(TO)	40GB A-1108-910-A ASSY HDD 40GB(HH)	30GB A-1108-911-A ASSY HDD 30GB(HH)	
LCD	15.4WXGA/High Brightness A-1133-649-A ASSY LCD (BR-WLAN)(Q)(S)(WHITE)					
Graphics	NV44M		P150M			
Memory	256MB*1 6-707-629-01 IC HY864D32020HDL-6-C	256MB*2 6-707-629-01 IC HY864D32020HDL-6-C	512MB*1 6-705-096-01 IC HY864D64020HBDL-6-C	512MB*2 6-705-096-01 IC HY864D64020HBDL-6-C		
Opt.Drive	DVD+RW A-1127-951-A ASSY ODD SONY(DVD+DL)(W)	Combo A-1127-956-A ASSY ODD QSI(SBW 243)(W)	DVD-ROM A-1127-958-A ASSY ODD Toshiba(C2732)(W)			
W-LAN	802.11b/g(intel) 1-761-884-51 WIRELESS LAN CARD	802.11a/b/g 1-789-095-51 WIRELESS LAN CARD				
CHASSIS COLOR	White					

Model name:VGN-FS690B  
Model number:PCG-7A1L(802.11a/b/g),PCG-7A2L(802.11b/g)  
OS:WinXP Pro

CPU	Pentium-M 770 6-707-261-01 CPU PM2.13	Pentium-M 760 6-707-260-01 CPU PM2.0	Pentium-M 750 6-707-259-01 CPU PM 1.86	Pentium-M 740 6-707-258-01 CPU PM 1.73	Pentium-M 730 6-707-252-01 CPU PM 1.6	Celeron-M 360J 6-707-715-01 CPU CEL-M 1.4					
HDD	100GB A-1127-961-A ASSY HDD 100GB(TO)	80GB A-1108-905-A ASSY HDD 80GB(TO)	60GB A-1108-908-A ASSY HDD 60GB(TO)	40GB A-1108-910-A ASSY HDD 40GB(HH)	30GB A-1108-911-A ASSY HDD 30GB(HH)						
LCD	15.4WXGA/High Brightness A-1133-649-A ASSY LCD (BR-WLAN)(Q)(S)(WHITE)										
Graphics	NV44M	P150M									
Memory	256MB*1 6-707-629-01 IC HY864D32020HDL-6-C	256MB*2 6-707-629-01 IC HY864D32020HDL-6-C	512MB*1 6-705-096-01 IC HY864D64020HBDL-6-C	512MB*2 6-705-096-01 IC HY864D64020HBDL-6-C							
Opt.Drive	DVD+RW A-1127-951-A ASSY ODD SONY(DVD+DL)(W)	Combo A-1127-956-A ASSY ODD QS(SBW 243)(W)	DVD-ROM A-1127-958-A ASSY ODD Toshiba(C2732)(W)								
W-LAN	802.11b(g)intel 1-761-884-51 WIRELESS LAN CARD	802.11a(b/g) 1-789-095-51 WIRELESS LAN CARD									
CHASSIS COLOR	White										

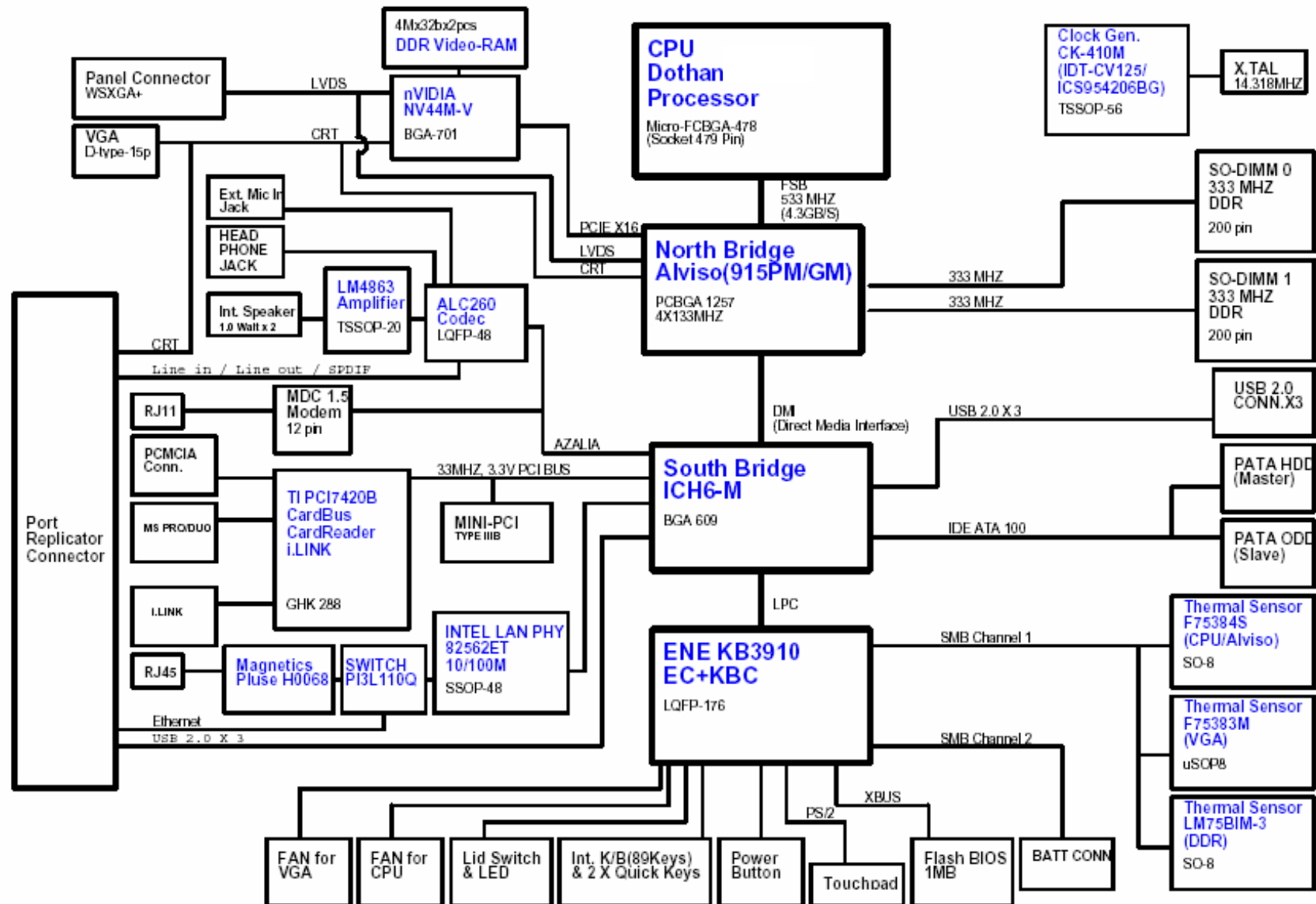
Model name:VGN-FS690BH  
Model number:PCG-7A1L(802.11a/b/g),PCG-7A2L(802.11b/g)  
OS:WinXP Home

CPU	Pentium-M 770 6-707-261-01 CPU PM 2.13	Pentium-M 760 6-707-260-01 CPU PM2.0	Pentium-M 750 6-707-259-01 CPU PM 1.86	Pentium-M 740 6-707-258-01 CPU PM 1.73	Pentium-M 730 6-707-252-01 CPU PM 1.6	Celeron-M 360J 6-707-715-01 CPU CEL-M 1.4
HDD	100GB A-1127-961-A ASSY HDD 100GB(TO)	80GB A-1108-905-A ASSY HDD 80GB(TO)	60GB A-1108-908-A ASSY HDD 60GB(TO)	40GB A-1108-910-A ASSY HDD 40GB(HH)	30GB A-1108-911-A ASSY HDD 30GB(HH)	
LCD	15.4WXGA/High Brightness A-1133-649-A ASSY LCD (BR-WLAN)(Q)(S)(WHITE)					
Graphics	NV44M		P150M			
Memory	256MB*1 6-707-629-01 IC HY864D32020HDL-6-C	256MB*2 6-707-629-01 IC HY864D32020HDL-6-C	512MB*1 6-705-096-01 IC HY864D64020HBDL-6-C	512MB*2 6-705-096-01 IC HY864D64020HBDL-6-C		
Opt.Drive	DVD+RW A-1127-951-A ASSY ODD SONY(DVD+DL)(W)	Combo A-1127-956-A ASSY ODD QS(SBW 243)(W)	DVD-ROM A-1127-958-A ASSY ODD Toshiba(C2732)(W)			
W-LAN	802.11b/g(intel) 1-761-884-51 WIRELESS LAN CARD	802.11a/b/g 1-789-095-51 WIRELESS LAN CARD				
CHASSIS COLOR	White					

1

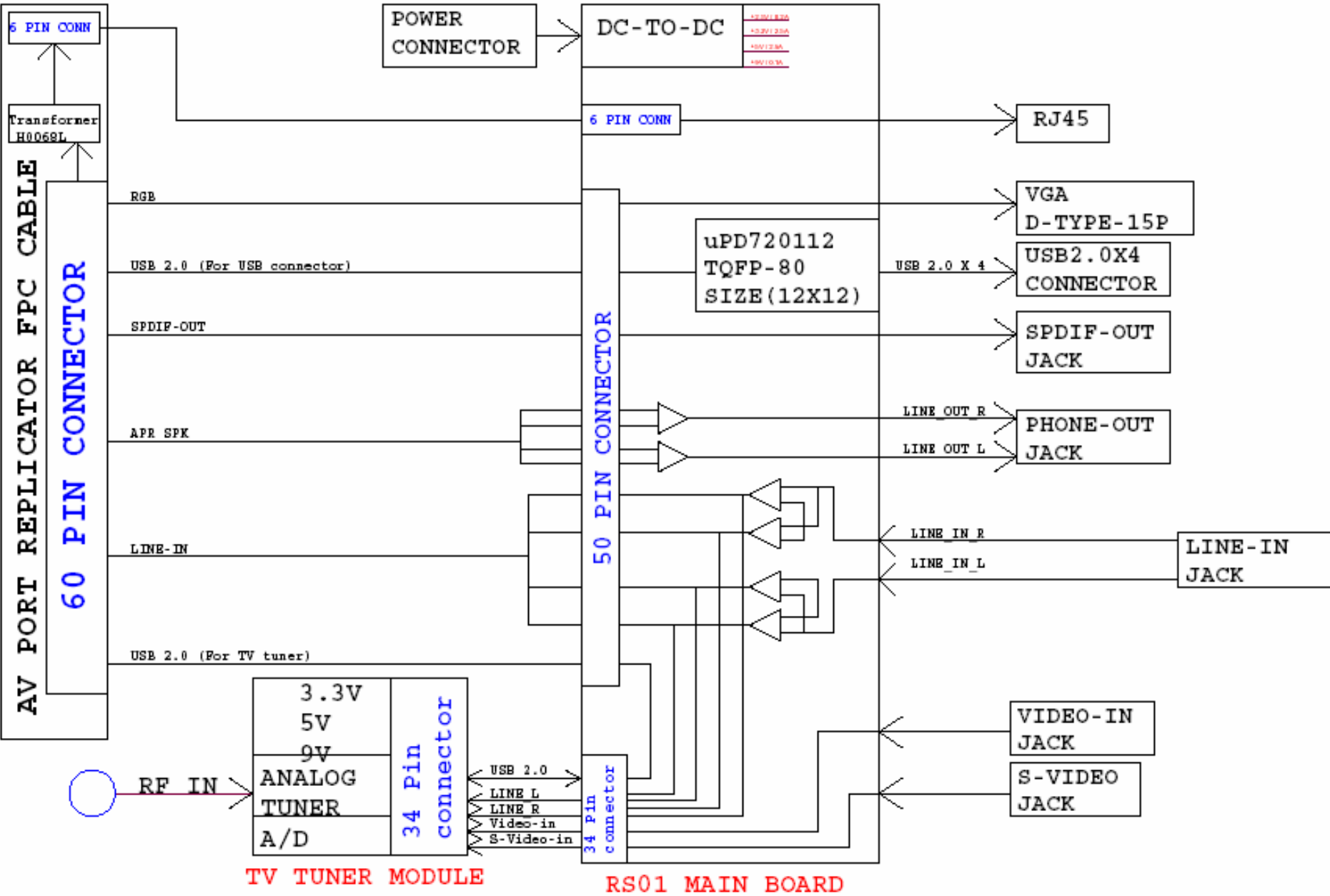
# CHAPTER2. BLOCK DIAGRAM

## 2-1.VGN-FS series





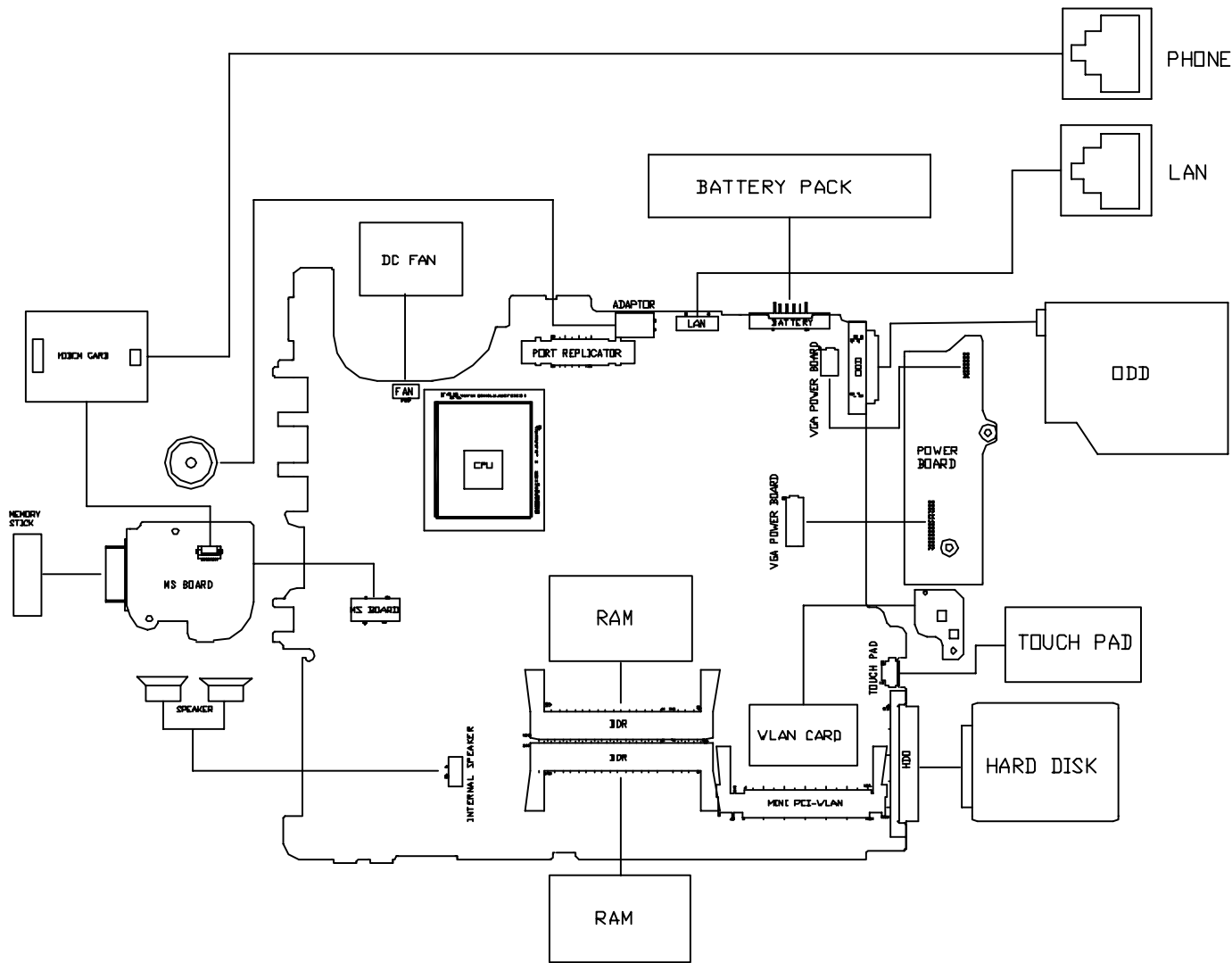
2-2. Port Replicator (VGP-PRFS10V)



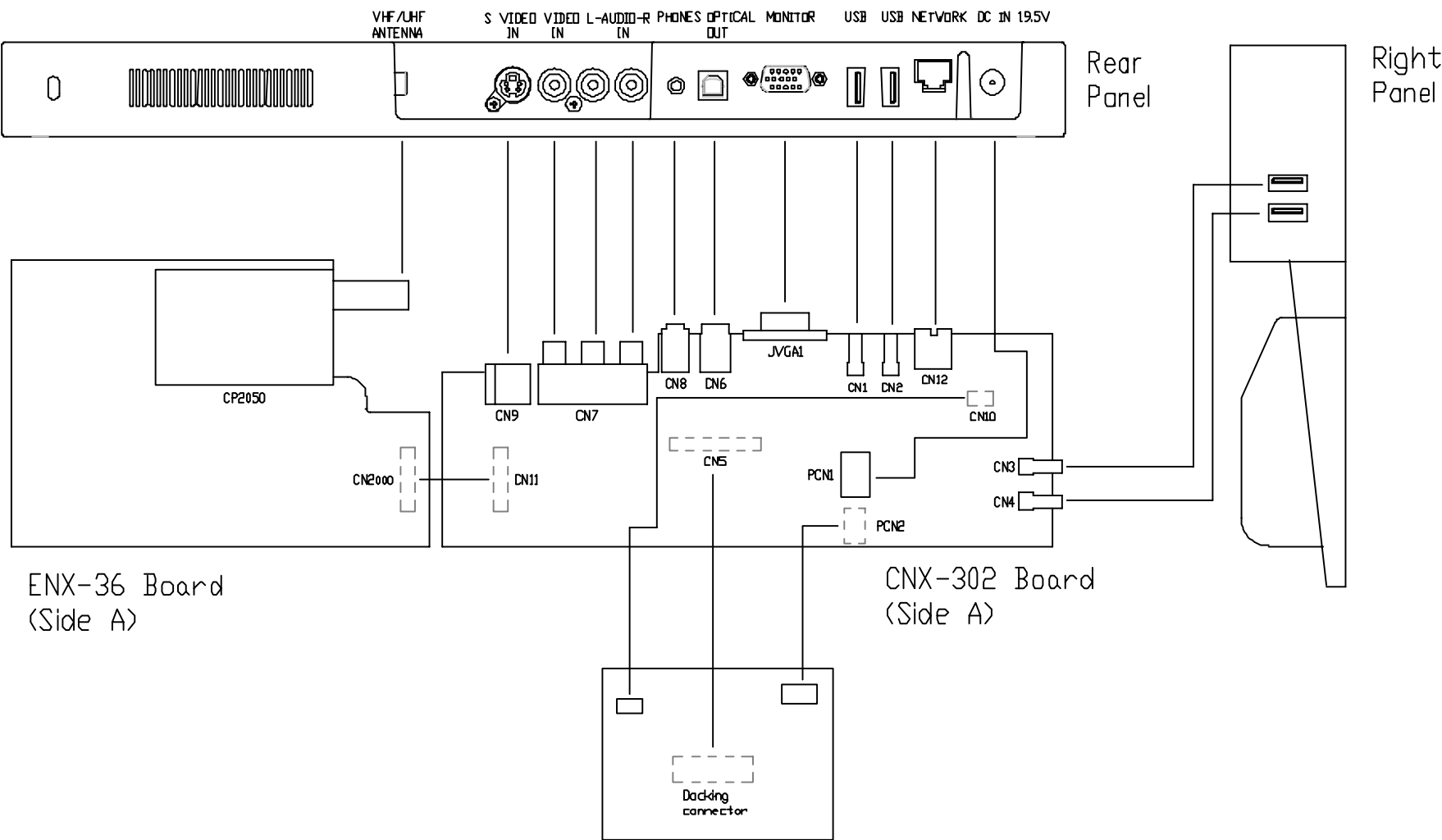
### 3-1 VGN-FS Series (TOP)



3-1 VGN-FS Series (BOTTOM)



### 3-2 Port Replicator (VGP-PRFS10V)



# CHAPTER 4

## EXPLODED VIEWS AND PARTS LIST

· The parts id compiled by blocks of a Palmrest and bottom etc.  
The sections of the parts list are different depending on the model.  
Please refer to list of contents shown in the below.

### Section Page

#### Screws

S-1.Screws..... 4-2

#### Palmrest

P-1.Palmrest..... 4-3

#### Main Board

M-1.Main Board..... 4-5

#### BOTTOM

B-1.BOTTOM..... 4-7

#### CABINET KBCOVER

C-1.CABINET KBCOVER..... 4-9

#### LCD

L-1.LCD..... 4-10

#### ODD

D-1.ODD ..... 4-13

#### HDD

H-1.HDD..... 4-14

#### ACCESSORIES

A-1.ACCESSORIES..... 4-15

A-2.ACCESSORIES..... 4-18



#### SUBSTITUTION PARTS LIST

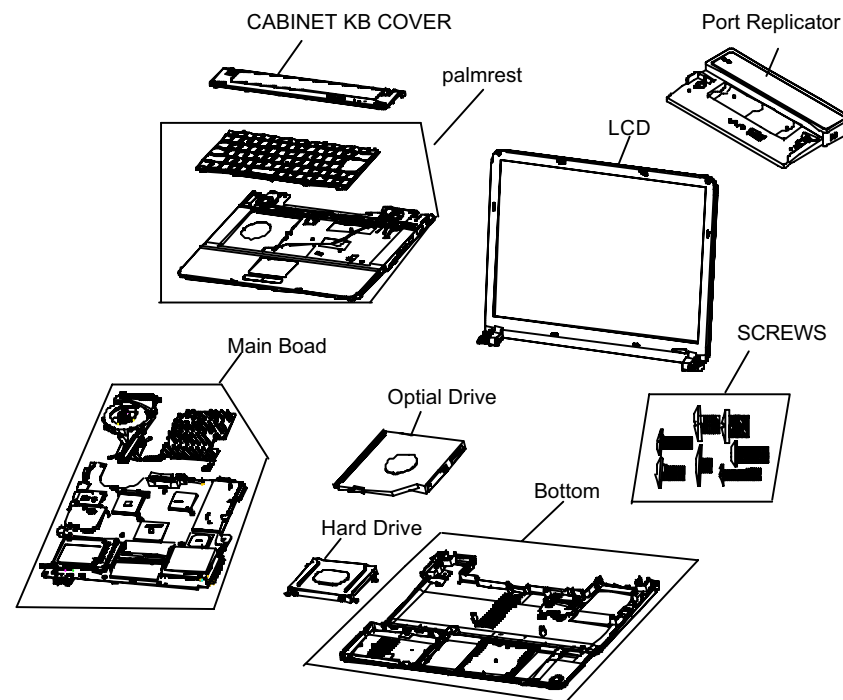
T-1.SUBSTITUTION PARTS LIST..... 4-20

**DIP Switch**..... 4-21

#### NOTE:

- The mechanical parts with no reference number in the exploded views are not supplied.
- When two or more parts are shown, use the part described first as the main part.
- The parts marked "&" are the "Customer Replacable Parts(CRP)" that can be replaced by Filed Customer Support. Especially the parts with the "<&>" mark require the special attention to use them. Here fore, check first whether the desired part is one of the targetted parts of the Customer Replacable Parts(CRP), or the non-targetted parts by referring to the exploded view.

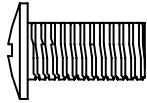







The components identified by mark  or dotted line with mark  are critical for safely.  
Replace only with part number specified.



Screws are supplied with a whole set.

# S-1. SCREWS

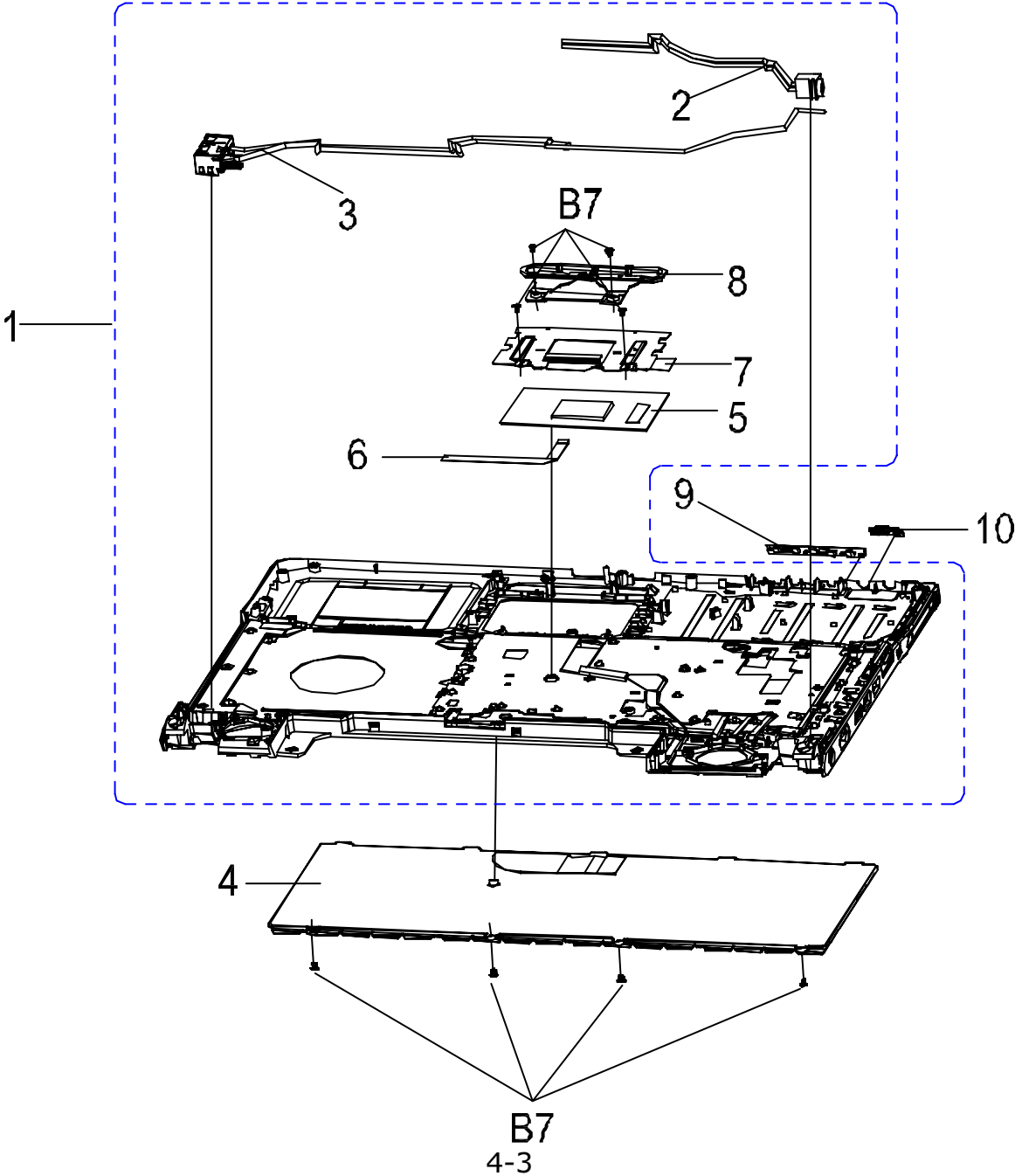
B0

B1	B2	B3	B4	B5	B6	B7	B9
							
M3*6	M2*1.6	M2*7	M2*5	M3*3.5	M2*2	M2*3	M2*6
Black	Black	Black	Silver	Silver	Silver	Black	Silver

<u>Ref.No.</u>	<u>Part No</u>	<u>Description</u>
B0	A-1133-648-A	& SCREW ASSY
B1		SCREW M3
B2		APPEARANCE SCREW M2
B3		SCREW (M2), EXTERIOR VIEW
B4		GRIP, M2
B5		SCREW, SPECIAL HEAD
B6		SCREW, SPECIAL HEAD
B7		SCREW, M2 SPECIAL HEAD, EG GRIP
B9		SCREW, M2 SPECIAL HEAD, EG GRIP

Note: Screws are supplied with B0, a whole set.

P-1. Palmrest



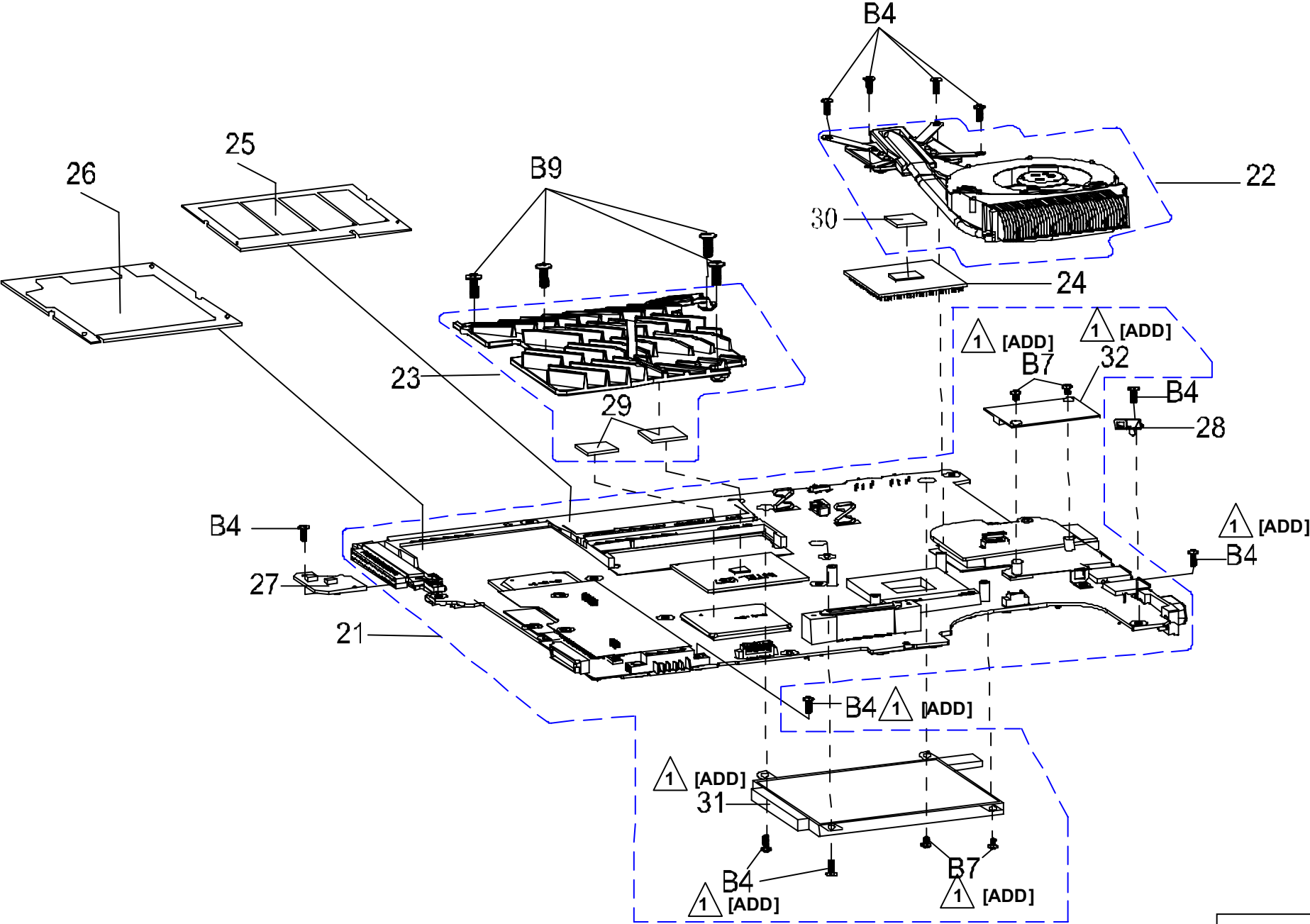
**P-1**

[illegible]

2  
[MA]



M-1. Main Board



**M-1**

 $\Delta_{[ADD]}$ [illegible]

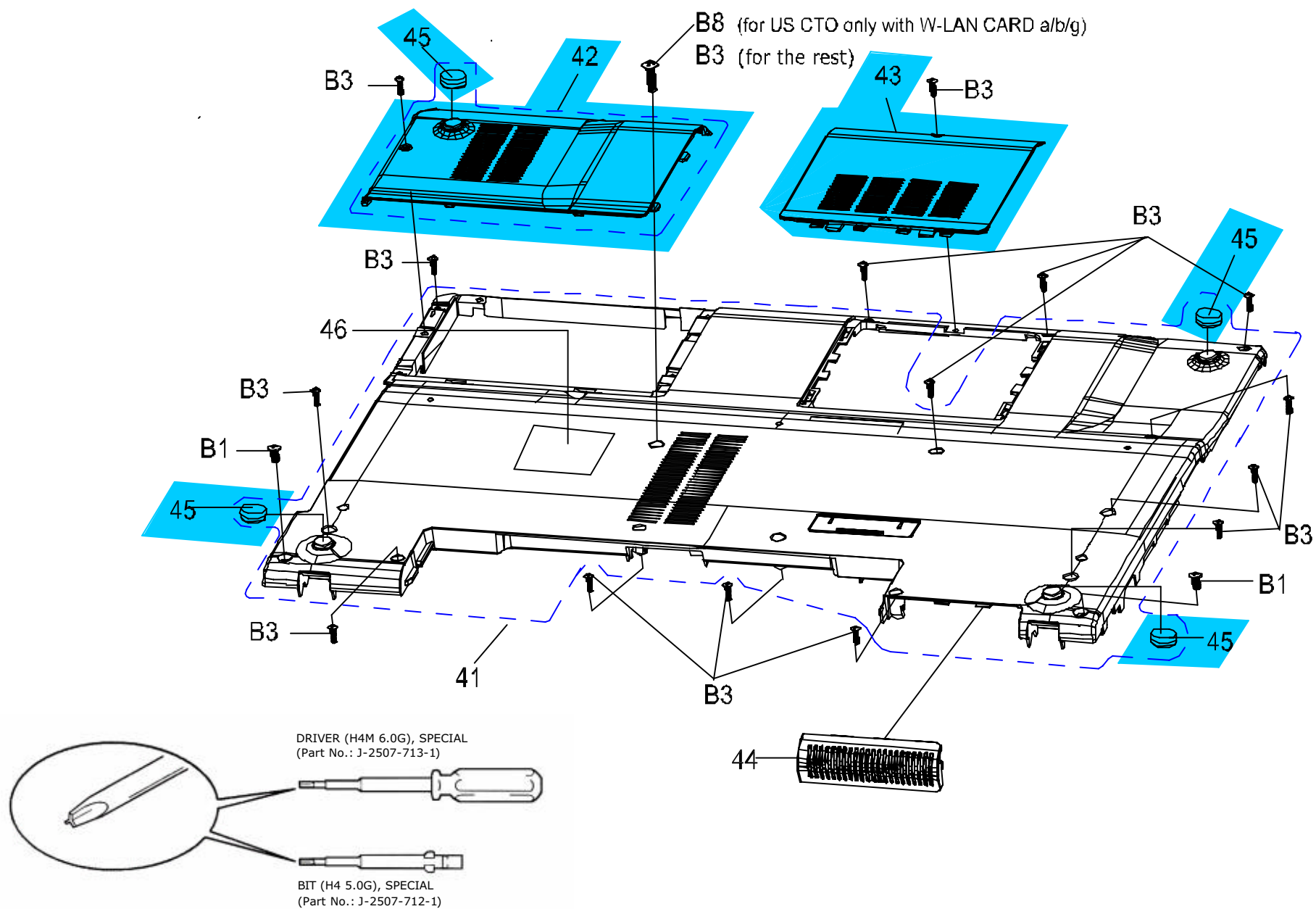
$\triangle_1$  [ADD]

2  
[MA]

2  
[MA]

# B-1.Bottom

B-1



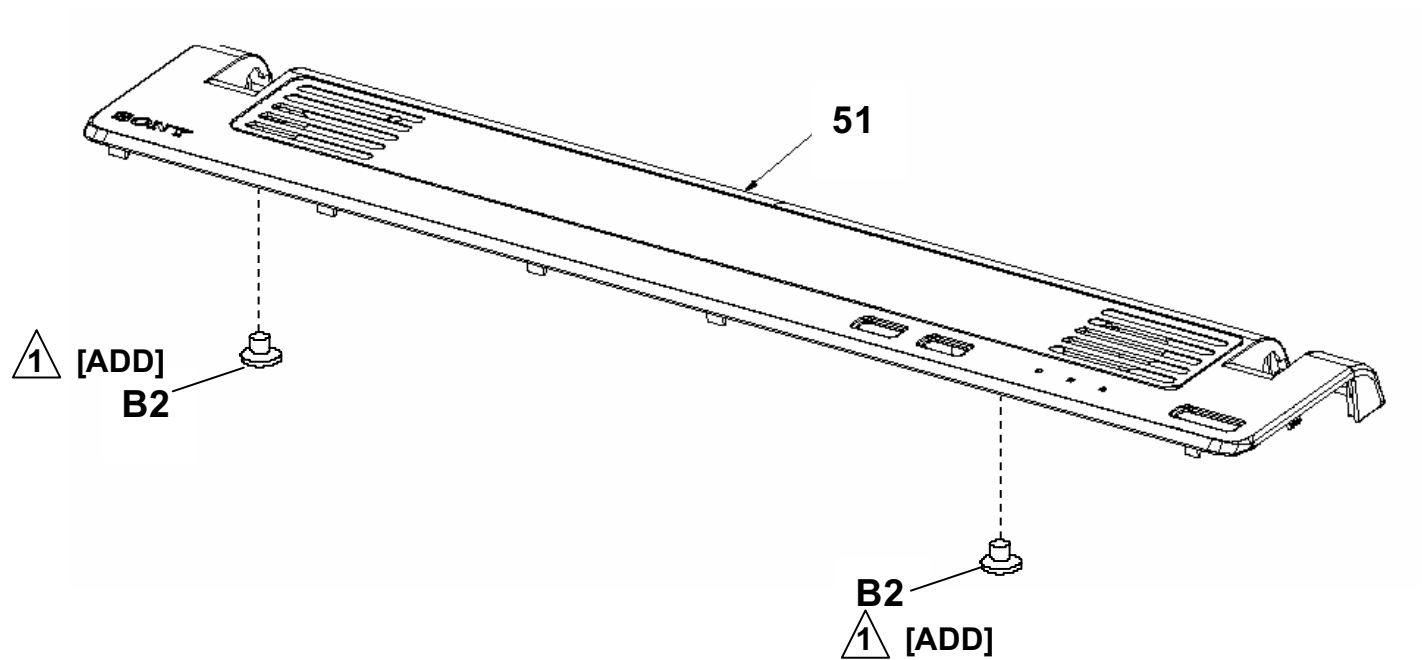
Note: For B8 removal, a special Tool Shown as right is needed.

## B-1

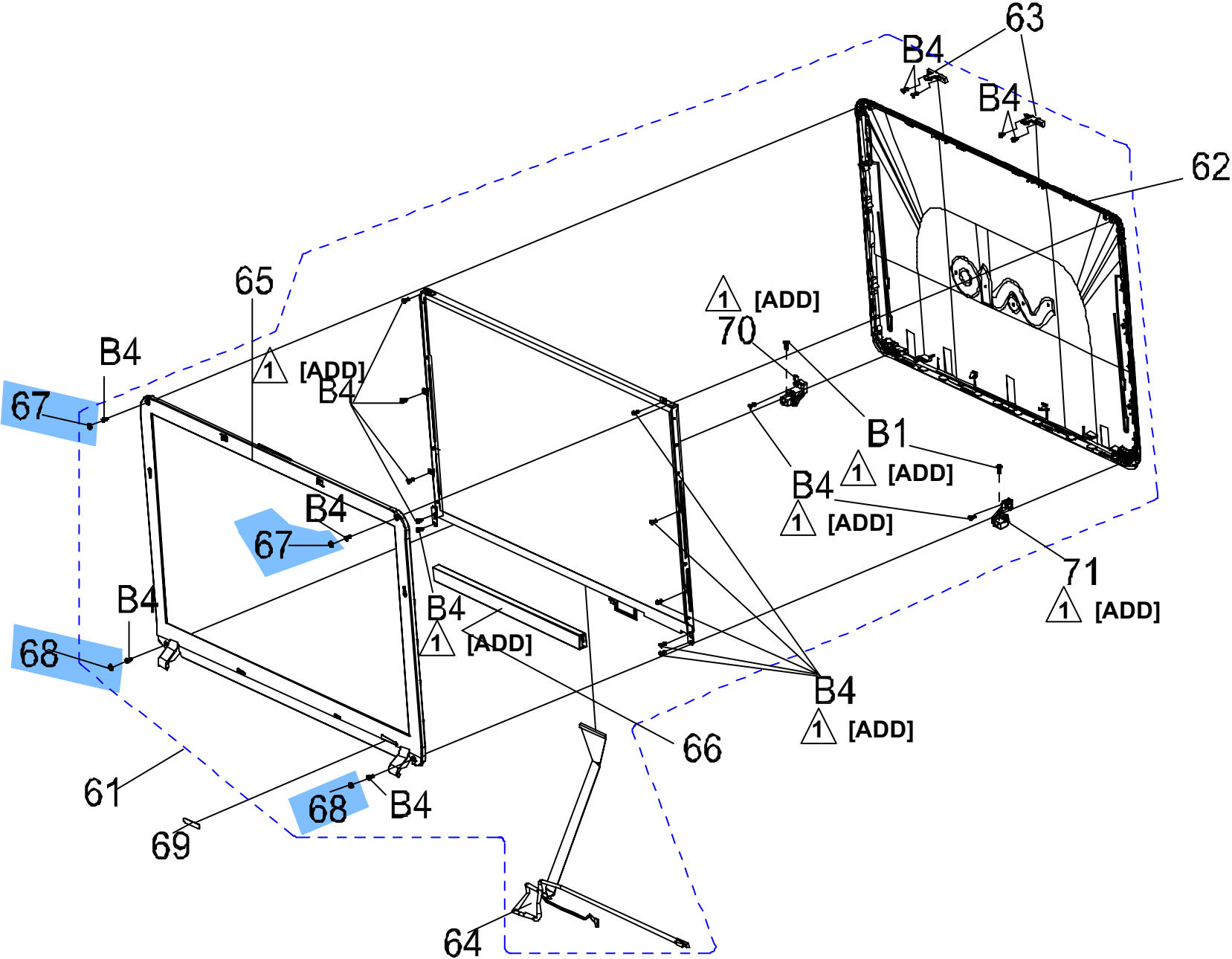
[illegible]
$$\frac{2}{[MA]}$$

C-1. CABINET KBCOVER

C-1




Ref.No.	Part No.	Description
51	X-2048-486-1	MS01 CABINET KBCOVER
B2		APPEARANCE SCREW M2 M2 1.6mm Black



Ref.No	Part No.	Description
63	2-546-200-01	MS01 LCD HOOK
65	X-2050-578-1	MS01 SUBASSY LCD BEZEL
67	2-546-209-01	& MS01 LCD RUBBER ROUND
68	2-587-393-01	& MS01 LCD RUBBER ROUND DOWN
[ADD] 70	2-546-203-01	MS01 HINGE LEFT
[ADD] 71	2-546-204-01	MS01 HINGE RIGHT
B1		SCREW,M3
B4		GRIP,M2 M2 5mm Siler

MODEL NO.QD15TL03



Type QDI (rear view)

(A-1)

A close-up photograph of the back of a laptop. A white label with the text "MODEL NO. TX39D81VC1AAA" is visible. A yellow ribbon cable is connected to the back of the laptop, and a black cable is also visible.

NOTE:

- Q for QDI LCD
- H for Hitachi LCD

[illegible]

2

[illegible]



**D-1**

This diagram shows the upper part of the device in an exploded perspective view. It includes a top plate (81) with a central circular opening, a side plate (82), and a bottom plate (83). The top plate is secured by a screw (B6) and a nut (B4). The side plate is secured by a screw (B6) and a nut (B4). The bottom plate is secured by a screw (B6) and a nut (B4). The side plate is also secured by a screw (84) and a nut (B4).

[illegible]

2  
[MA]

# H-1

△<sub>1</sub> [ADD]


$$\frac{[MA]}{[MA]_0}$$

2  
[MA]

# A-1. ACCESSORIES

A-1

2001  
Memory Card Adapter



2006  
AC Adapter



2031  
SPEAKER



2004  
Floppy Disk Drive



2007  
Battery Pack



2005  
Power Cord



2030  
Port Replicator



Refer to A -2 . Accessories

2032  
Adapter, AC (SPEAKER)



2034  
CORD, POWER (SPEAKER)



2035  
RAY-CATCHER



2036  
REMOTE COMMANDER



2037  
RF CORD WITH F TERMINAL



- 1) The Ref. 2030-2037 are included only in the models supplied with the Port Replicator.

**A-1**

[MA]

**A-1**

$$\frac{[MA]}{[M]}$$

2  
[MA]

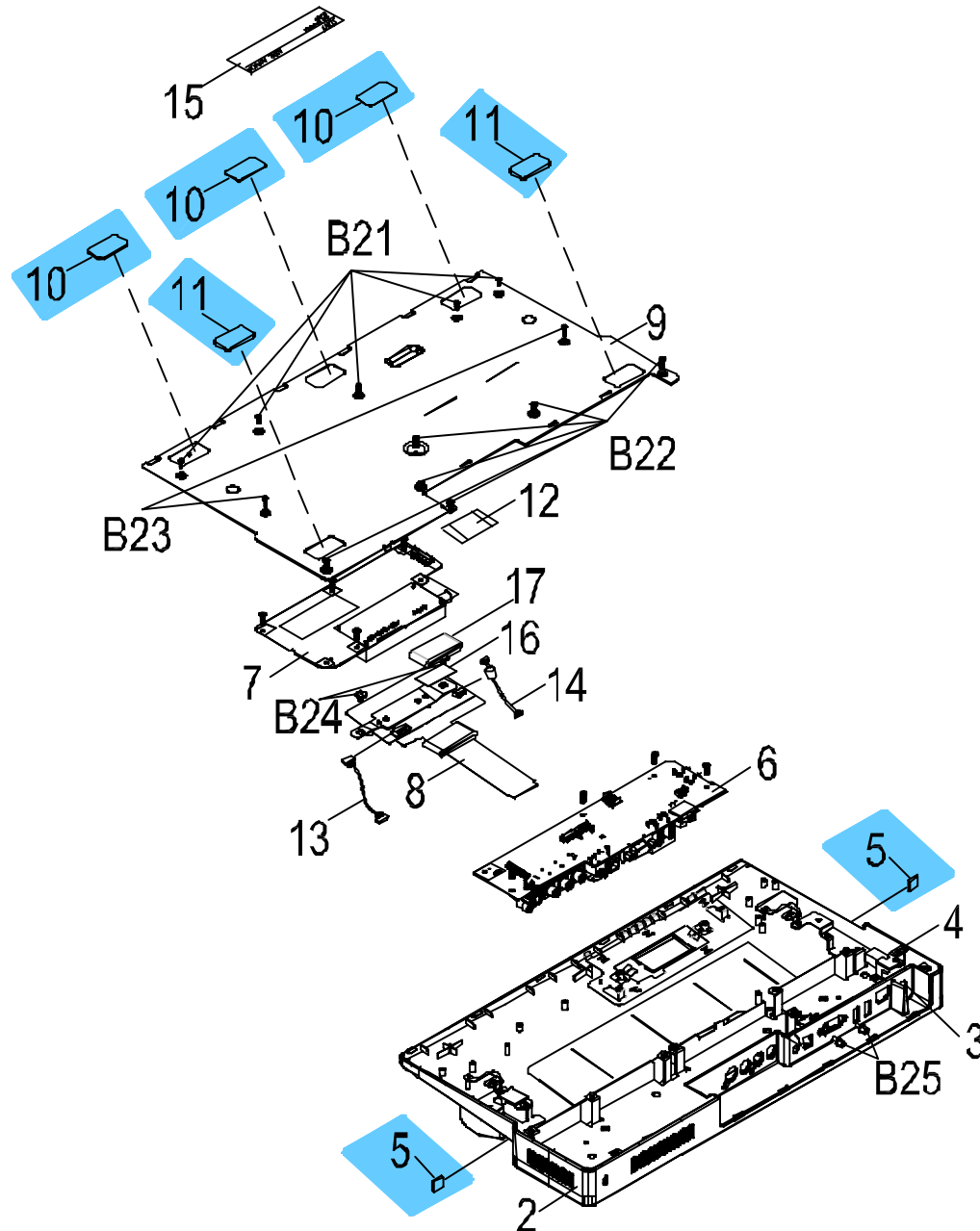
# A-2. ACCESSORIES

A-2

B20

B21		M3*8	Black
B22		M2*6	Black
B23		M2*8	Black
B24		M3*5	Black
B25		M2*2	Silver

Note: Screw are supplied with B20,a whole set



**A-2**

[illegible]

2  
[MA]

# T-1

Please order below substitution parts if the parts with the same Ref. No. in page 4-2 to 4-17 are not available.

\* : CTO Model

			J							AM														EU												AO																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
Ref.No.	Part No.	Description	FS71B	FS51B	FS31B	FS21B	FS21	FS91PS *	FS91PSY*	FS91S *	FS680	FS660P	FS660	FS640	FS675P	FS635B	FS625B	FS645P	FS670FG	FS650F	FS630F	FS615F	FS640Q	FS655FP	FS640FP	FS610FP	FS620P	FS620	FS630	FS690P *	FS690B *	FS690 *	FS690BH*	FS295XP	FS215Z	FS215M	FS295VP	FS215B	FS215E	FS215SR	FS215MR	FS285M	FS285B	FS285E	FS215S	FS285H	FS28C	FS25C	FS28GP	FS28SP	FS28LP	FS28TP	FS25GP	FS25SP	FS25LP	FS25TP																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
<div><div></div><div>[ADD]</div></div>	5	1-797-464-21	TOUCHPAD																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												

$$\frac{[MA]}{[M]_0}$$

$\triangle 2$   
[MA]



The DIP switch setting is following table.

The DIP switch setting is following table.

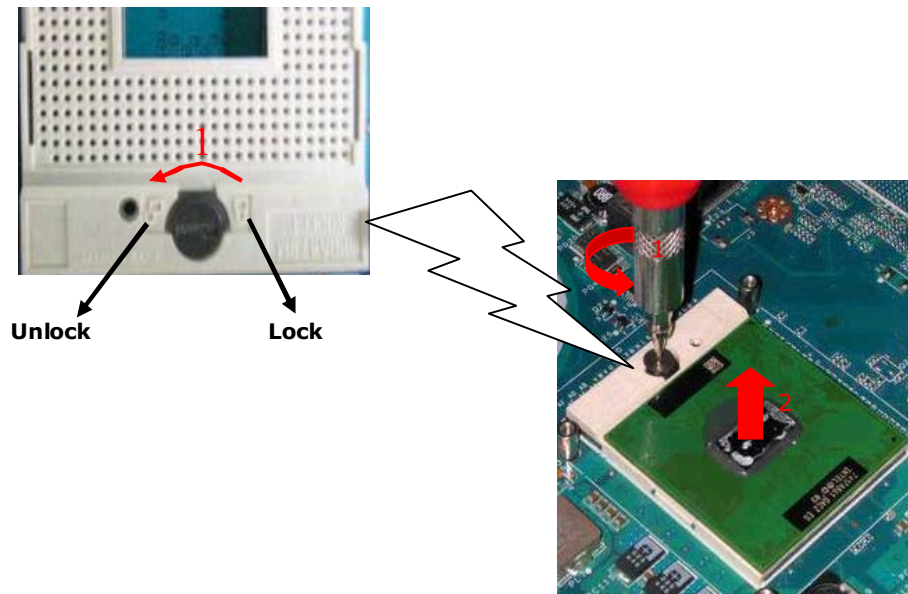
The DIP switch setting is different depending the types of LCD.  
Set the DIP switch of CTO model in accordance with the [FOR CTO MODEL].

## CHAPTER 5. OTHERS

### 5-1.Replacing the CPU

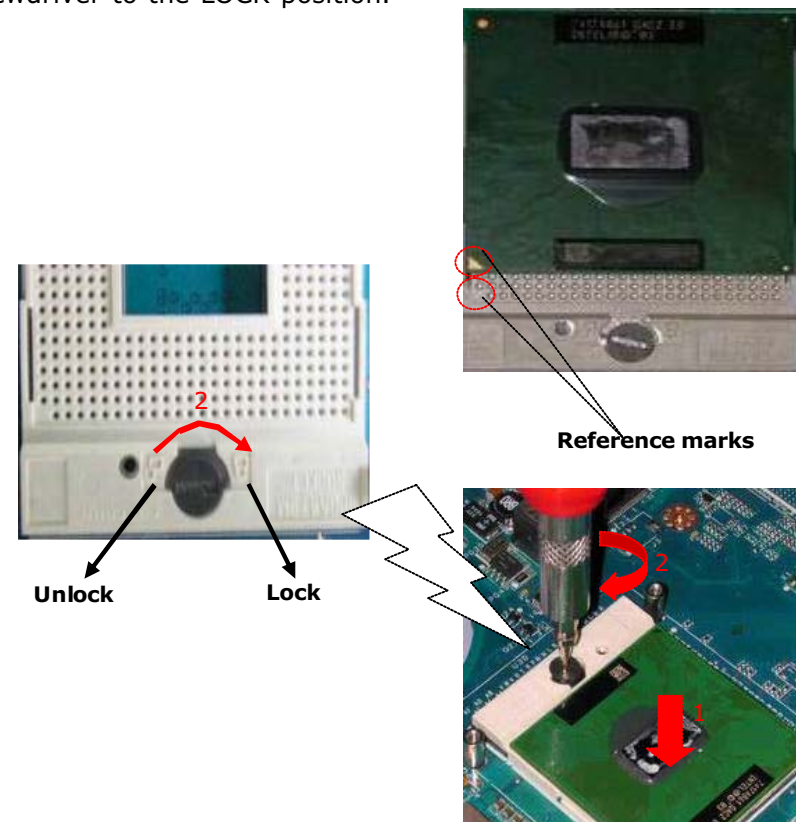
#### 1. Removing the CPU

1. Insert a flat-blade screwdriver into the notch as shown illustration and rotate it so that the protrusion comes to the lock release position.
2. Pull the CPU gently upward to lift it out of the CPU socket



#### 2. Installing the CPU

1. Align the triangle reference mark of the mark the CPU with that of the CPU socket and insert all the pins of the CPU to the corresponding holes of the CPU socket.
2. Insert the flat head (-) screwdriver into the specified position and rotate the screwdriver to the LOCK position.



## 5-2. Wiring the W-LAN Cable

\* The MS02 PWA ANTENNA is installed also in the models without Wireless LAN.  
Refer to the instruction below to see how to wire the CABLE.



Using KAPTION TAPE to secure the Cable.





VGN-FS71B/FS51B/FS31B/FS21B/FS21/FS91PS/FS91PSY/FS91S (J)

VGN-FS680/FS660P/FS660/FS640/FS675P/FS635B/FS625B/FS645P/FS670FG/FS650F/FS630F/FS615F/FS640Q/FS655FP/FS640FP/FS610FP/FS620P/FS620/FS630/FS690P/FS690B/FS690/FS690BH (AM)

VGN-FS295XP/FS215Z/FS215M/FS295VP/FS215B/FS215E/FS215SR/FS215MR/FS285M/FS285B/FS285E/FS215S/FS285H (EU)

VGN-FS28C/FS25C/FS28GP/FS28SP/FS28LP/FS28TP/FS25GP/FS25SP/FS25LP/FS25TP (AO)

### List of VGN-F Series (As of Nov, 2005)

Service Manual	Model Name									
Part No.	J		AM			EU		AO		
9-876-414-XX	VGN-FS70B	VGN-FS20	VGN-FS570	VGN-FS520B		VGN-FS195XP	VGN-FS195VP		VGN-FS18CP	VGN-FS18TP
	VGN-FS50B	VGN-FS90PS *	VGN-FS550	VGN-FS500	*	VGN-FS115Z	VGN-FS115B		VGN-FS15C	VGN-FS15GP
	VGN-FS30B	VGN-FS90S *	VGN-FS550P	VGN-FS500P *		VGN-FS115S	VGN-FS115ZR		VGN-FS18GP	VGN-FS15SP
			VGN-FS540P	VGN-FS500B *		VGN-FS115M	VGN-FS115MR		VGN-FS18SP	VGN-FS15LP
			VGN-FS530B	VGN-FS550F		VGN-FS115E			VGN-FS18LP	VGN-FS15TP
9-876-425-XX	VGN-FS71B	VGN-FS21	VGN-FS680	VGN-FS670FG	VGN-FS620P	VGN-FS295XP	VGN-FS215MR		VGN-FS28C	VGN-FS28TP
	VGN-FS51B	VGN-FS91PS *	VGN-FS660P	VGN-FS650F	VGN-FS620	VGN-FS215Z	VGN-FS285M		VGN-FS25C	VGN-FS25GP
	VGN-FS31B	VGN-FS91PSY *	VGN-FS660	VGN-FS630F	VGN-FS630 	VGN-FS215M	VGN-FS285B		VGN-FS28GP	VGN-FS25SP
	VGN-FS21B	VGN-FS91S *	VGN-FS640	VGN-FS615F	VGN-FS690P *	VGN-FS295VP	VGN-FS285E		VGN-FS28SP	VGN-FS25LP
			VGN-FS675P	VGN-FS640Q	VGN-FS690B *	VGN-FS215B	VGN-FS215S		VGN-FS28LP	VGN-FS25TP
			VGN-FS635B	VGN-FS655FP	VGN-FS690 *	VGN-FS215E	VGN-FS285H			
			VGN-FS625B	VGN-FS640FP	VGN-FS690BH * 	VGN-FS215SR				
			VGN-FS645P	VGN-FS610FP						




\*: CTO Model



: Additional Model

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# Revision History

Suffix	Ver.	Date	Contents	QM No.
-01	Ver.1	2005.06.07	First Edition	
-02	Ver.2	2005.08.24	 <b>Page4-4, Page4-5,Page4-6, Page4-8,Page4-9, Page4-10, Page4-11, Page4-12, Page4-13, Page4-14, Page4-16,Page4-19,Page4-20, Page4-21</b>	N2005_037CK
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-04	Ver.4	2005.11.01	 <b>Front Page, Page4-20</b>	N2005_061CK
<Remarks>				